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A study on financial performance of selected private sector banks in India by using of camel approach

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ABSTRACT
In Indian developing economy banks play vital role for flowing money in whole Indian market and past decade economic change promote private banking effectiveness and efficiency in banking sector. So, this study is done on compere financial performance of selected 5 private sector banks nine-year data during period of 2011 to 2019. Collected all ratio base data on CAMEL Approach. Examine by mean, standard deviation, ANOVA tools. Finally concluded that HDFC BANK have better financial performance among all private banks, AXIS Bank have lower performance based on CAMEL approach. Other Banks need to take step to improve efficiency and effectiveness of bank.

Keywords: *Financial performance, Capital Adequacy, Asset Quality, Management Efficiency, earning capacity, Liquidity*

In the Indian developing economy, the banks act like the heart of the human body, as the blood required in the human body flows through the heart, the flow of money in the Indian developing economy through the banks. Over the past six decades, the Indian banking sector has undergone many major changes which has led to a significant increase in the efficiency of the Indian banking sector and there had increased privatization in the banking sector. So many private sector banks are doing well performance in Indian banking sector. Mostly private sector banks are functioning better than public sector banks and increase profitability. So, it need that study on private sector banks performance.

REVIEW OF LITERATURE
Ratan Sinha (2016) had evaluated the financial performance of six public and private sector banks by used CAMEL Approach. In this study statistical tool use for analysis and interpretation is mean, standard deviation and ANOVA. The study concluded that significance difference of CAMEL ratio between both group of banks. So overall performance of both private sector private sector and public sector bank was difference.

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Jagjeet Kaur and Dr. Harsh Vineet Kaur (2016) undertook study on "Camel analysis of selected public sector banks" with objective is evaluate financial performance of banks. In this study use 10-year data (2005-2015) of top ten public sector banks. The study revealed that Bank of Baroda and Panjab National Bank have good performance in compere to other banks.

Dr. K.R. Sivabagyam, Harshitha.B, Gowthami. D, Jayakrithika.R, Nivethitha. G (2019) had evaluated financial performance of top 10 Iron and Steel company in India during the period of 2015 to 2019. In this study use statistical tools for analysis and interpretation is mean, standard deviation, Coefficient of variation and ANOVA. The study concluded that Tata steels, Essar steels, Narayani steels, Sunflag steels, performed better than other company and suggest bad performing other steel companies have to take initiate steps for improvement of performance.

G.L.Meena (2016) had analysed 20 public and private sector banks using CAMEL Approach. In this study give ranks to all the banks in terms of Capital Adequacy, Asset Quality, Management Efficiency, earning capacity, Liquidity. This study concluded that Profit per employee was found to be highly correlated with the ROA of the banks and causes a variance of 39.30% in the return on assets of the banks. HDFC And ICICI bank give higher safety to investor and Central bank of India have good ability to recover their advance. In term of liquidity position Bank of Baroda is highest.

CAMEL MODEL

CAMELS Model is mostly used to evaluate the financial performances of the financial institutes. by using various ratio of CAMEL Model. The CAMEL Model stands for various criteria of ratio analysis through which bank financial health is measured in present study

(1) C stands for the Capital
  (a) Capital Adequacy Ratio
(2) A stands for the Assets Quality of Banks
  (a) Net Non-Performing Assets
  (b) Return on Assets
(3) M stands for the Management Capability of the Bank
  (a) Credit Deposit Ratio
  (b) Return on Net Worth
  (c) c) Business Per Employee
(4) E stands for the Earning
  (a) Operating Profit Ratio
  (b) Net Profit Ratio
(5) L stands for the Liquidity
  (a) Cash Deposit Ratio
  (b) Liquidity Ratio

Research gap

Now a most of banking financial performance study on the public and private comparative study but no one study has done on inter private sector banks study so that this study has done on the financial performance of selected private sector banks by use of CAMEL Model.

RESEARCH METHODOLOGY

Objective

- To evaluate the financial performance of the selected private sector banks by means of CAMEL Approach model. For fulfill this objective the following hypothesis were made.
- All private banks under study have on a same average performance as a measure by CAMEL Approach model

Sampling

This research is based on secondary data collected from RBI and Money control website, For the study get Nine-year data from 2011 to 2019 of selected top 5 private sector banks out of 20 private banks based on market capitalization BSE (Available on www.moneycontrol.com).

Name of 5 selected banks for study

1. HDFC BANK
2. KOTAK MAHINDRA BANK
3. ICICI BANK
4. AXIS BANK
5. INDUSLND BANK

Statistical tools

1. Arithmetic mean
2. Standard Deviation
3. ANOVA

Financial tools

1. Capital Adequacy Ratio
2. Net Non-Performing Assets
3. Return on Assets
4. Credit Deposit Ratio
5. Return on Net Worth
6. Business Per Employee
7. Operating Profit Ratio
8. Net Profit Ratio
9. Cash Deposit Ratio
10. Liquidity Ratio

Analysis and interpretation

1 CAPITAL

The bank needs to maintain the trust of depositors in the bank to prevent bankruptcy. Therefore, the bank needs to maintain the financial stability required for investor confidence. It emulates the complete financial position of banks and management capacity to meet the need for additional capital.

1.1 CAPITAL ADEQUACY RATIO (CAR)

The capital adequacy ratio used by bank to determine the adequacy of their capital keeping in view their exposures. Capital adequacy ratios measure of the amount of a bank's core capital expressed as a percentage of its risk- weighted asset.

Capital Adequacy Ratio = (Tier 1 Capital + tier 2 Capital) / Risk Weighted Assets

Table 1.1 Capital Adequacy Ratio

YEAR	HDFC	KOTAK MAHINDRA	ICICI	AXIS	INDUSLND
2011	16.22	19.92	19.54	12.65	15.89
2012	16.52	17.52	18.52	13.66	13.85
2013	16.8	16.05	18.74	17	15.36
2014	16.07	18.83	17.7	16.07	13.83
2015	16.79	17.17	17.02	15.09	12.09
2016	15.53	16.34	16.64	15.29	15.5
2017	14.55	16.77	17.39	14.95	15.31
2018	14.82	18.22	18.42	16.57	15.03
2019	17.11	17.45	16.89	15.84	14.16
MEAN	16.05	17.59	17.87	15.24	14.56
SD	0.90	1.23	0.98	1.38	1.19

To draw conclusions from Table No. 1.1, it is understood that there is a minimum difference of 12.09 for INDUSLND Bank and 19.92 for The Kotak Mahindra Bank during 2015 for selected private sector banks. Average minimum ratio for INDUSLND Bank is 14.56 and maximum ratio of 17.87 for ICICI Bank. The minimum ratio indicates that INDUSLND Bank is not sufficient capitalization compared to other banks. The maximum ratio indicates that ICICI Bank has enough capital compared to other banks. Thus, ICICI Bank is able to cover the real issues of loss which will happen in banking. Axis Bank has the highest level of standard deviation and HDFC Bank has the lowest level of standard deviation.

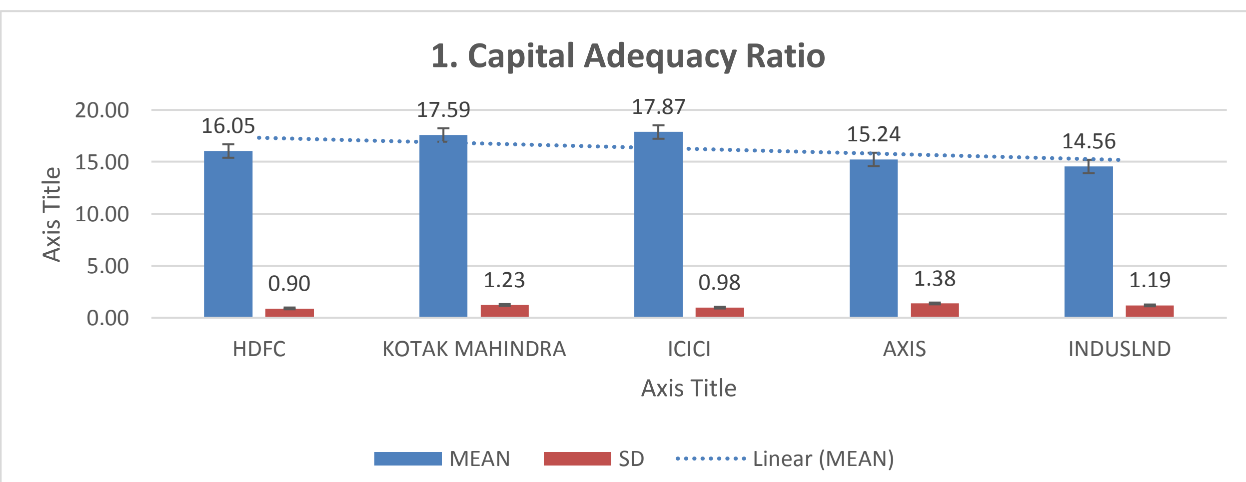

Table 1.2 Anova For Capital Adequacy Ratio

Source of Variation	SS	df	MS	F	F crit
Between Groups	75.18	4.00	18.79	14.18	2.61
Within Groups	53.02	40.00	1.33		
Total	128.19	44.00			

$H0_1$: All private banks under study have on a same average of capital adequacy ratio
From the above TABLE 1.2 ANOVA FOR CAPITAL ADEQUACY RATIO, show that since the calculated F value (14.18) more than F critical value (2.61) at the level of significance 0.05, accept the alternate hypothesis. i.e., All private banks under study have on a difference average of capital adequacy ratio

2. ASSET QUALITY

The quality of property is an important factor in measuring the strength of the bank. The main objective of measuring the quality of assets is to determine the share of non-performing assets as a percentage of total assets.

2.1 NET NON-PERFORMING ASSETS

Non-performing assets are assets that confiscate the income generated by banks. Net-NPA is total bad assets (real) which is less than the provision left aside. Net NPA = Gross NPA-Total provision held

TABLE 2.1 - NET NPA TO TOTAL ASSETS

BANK	HDFC	KOTAK MAHINDRA	ICICI	AXIS	INDUSLND
2011	0.11	0.42	0.59	0.49	0.16
2012	0.10	0.36	0.39	0.42	0.16
2013	0.12	0.37	0.42	0.21	0.19
2014	0.17	0.65	0.55	0.27	0.21
2015	0.15	0.57	0.97	0.29	0.19
2016	0.19	0.66	1.80	0.48	0.23
2017	0.21	0.80	3.27	1.43	0.25
2018	0.24	0.63	3.16	2.40	0.34
2019	0.26	0.49	1.39	2.29	0.81
MEAN	0.17	0.55	1.39	0.92	0.28
SD	0.06	0.15	1.13	0.89	0.20

From the above table no. 21, it is assumed that net NPAs for HDFC Bank during 2012 are at least 0.10 for selected private sector banks and maximum of 3.27 for ICICI Bank during 2017. Chart no. 2 indicates low average ratio of net NPA from NPA to HDFC Bank and maximum average ratio for ICICI Bank. ICICI Bank has the highest standard deviation level and the standard deviation level at HDFC Bank is the lowest.

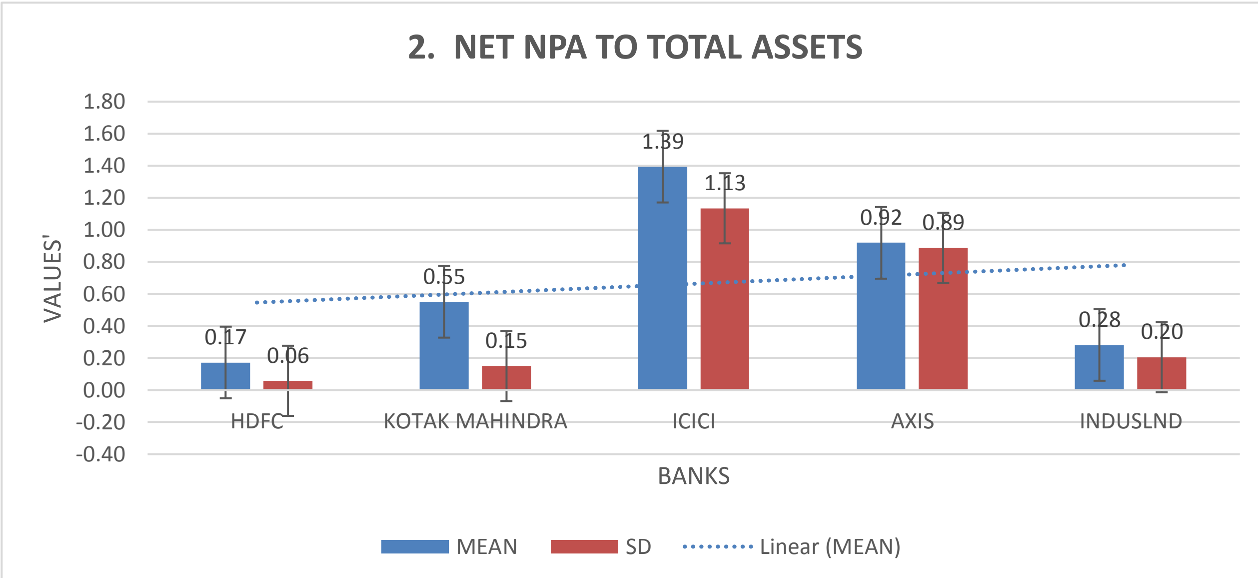

Table 2.2 - Anova For Net Npa To Total Assets

Source of Variation	SS	df	MS	F	F crit
Between Groups	8.99	4.00	2.25	5.24	2.61
Within Groups	17.15	40.00	0.43		
Total	26.14	44.00			

$H0_2$: All private banks under study have on a same average of net non-performing assets ratio. From the ANOVA FOR NET NPA TO TOTAL ASSETS table 2.1 it is inferred that since the calculated F value (5.24) more than F critical value (2.61) at the level of significance 0.05, accept the alternate hypothesis. i.e., All private banks under study have a difference average of net non-performing assets ratio

2.2 RETURN ON ASSETS (ROA)

It does explain the bank's ability to generate profit from assets.

RETURN ON ASSETS = NET INCOME /AVETAGE TOTAL ASSETS

Table 3.1 - Return on Assets (%)

BANK	HDFC	KOTAK MAHINDRA	ICICI	AXIS	INDUSLND
2011	1.41	1.6	1.26	1.39	1.26
2012	1.52	1.65	1.36	1.48	1.39
2013	1.68	1.62	1.55	1.52	1.44
2014	1.72	1.71	1.64	1.62	1.61
2015	1.73	1.76	1.72	1.59	1.64
2016	1.73	1.08	1.34	1.56	1.63
2017	1.68	1.58	1.26	0.61	1.6
2018	1.64	1.54	0.77	0.03	1.62
2019	1.69	1.55	0.34	0.58	1.18
MEAN	1.64	1.57	1.25	1.15	1.49
SD	0.11	0.20	0.44	0.59	0.18

From table no. 1.3, it is assumed that selected private sector banks fluctuate at least 0.03 AXIS banks in 2018 and maximum 1.76 Kotak Mahindra Bank during 2015. The minimum average ratio of 1.15 Axis Bank and maximum 1.64, minimum ratio indicates that The AXIS Bank has the least returns on assets compared to other banks. The maximum ratio displays that HDFC Bank has a profitable asset value related to other banks. AXIS Bank has the maximum level of standard deviation and HDFC Bank is the lowest

TABLE 3.2 - ANOVA for Return on Assets

Source of Variation	SS	df	MS	F	F crit
Between Groups	1.59	4.00	0.40	3.21	2.61
Within Groups	4.95	40.00	0.12		
Total	6.53	44.00			

$H0_3$: All private banks under study have on a same average of return on assets ratio
From the ANOVA table 3.2, it is inferred that since the calculated F value (3.21) more than F critical value (2.61) at the level of significance 0.05, accept the alternate hypothesis. i.e., All private banks under study have a difference average of return on assets ratio.

3. MANAGEMENT EFFICIENCY

This segment includes self-specific analysis to measure the efficiency and effectiveness of management in ratio

3.1 CREDIT DEPOSIT RATIO

The CDR ratio is used to calculate a ratio to cover the credit bank's ability to cover withdrawals that its customers derive. The bank must make the deposit on request, so if the ratio is high, there is a high risk to the bank. CREDIT DEPOSIT RATIO= LOANS / DEPOSIT

TABLE 4.1 - Credit Deposit Ratio

BANK	HDFC	KOTAK MAHINDRA	ICICI	AXIS	INDUSLND
2011	76.02	94.27	90.45	74.65	76.49
2012	78.06	100.9	97.71	76.26	79.8
2013	80.14	97.75	99.25	77.58	82.28
2014	81.79	92.18	100.71	80.03	86.74
2015	81.71	88.99	104.72	84.71	92.02
2016	83.24	86.57	105.08	91.1	94.06
2017	85.64	86.04	98.69	92.17	91.77
2018	84.68	87.35	92.92	93.63	92.75
2019	86.32	89.7	90.54	93.25	95.62
MEAN	81.96	91.53	97.79	84.82	87.95
SD	3.45	5.20	5.51	7.86	6.91

Table 4.1 The loan rate is expected to be at least 74.65 in 2011 and 105.08 for ICICI Bank in 2015. Average rate of 81.96 for HDFC Bank and up to 97.79 ICICI Bank. The minimum ratio of HDFC Bank indicates that the risk of HDFC Bank is lower than that of CDR. The maximum rate of ICICI Bank shows that there is a greater reliance on credit deposits. This disturbs the liquidity of banks compared to other banks. Axis Bank has the highest standard deviation level and HDFC Bank has the lowest standard deviation level.

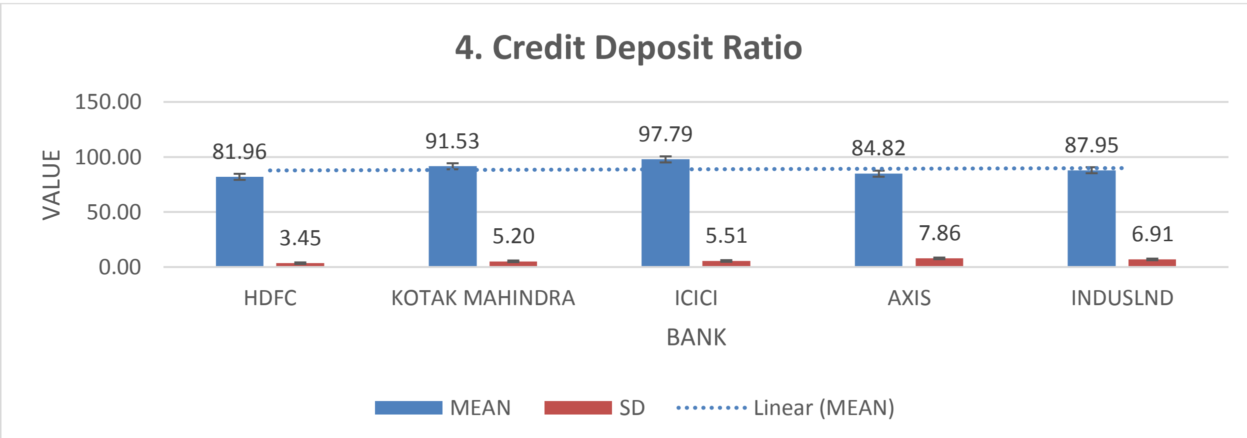

TABLE 4.2 - ANOVA for Credit Deposit Ratio

Source of Variation	SS	df	MS	F	F crit
Between Groups	1364.34	4.00	341.09	9.54	2.61
Within Groups	1430.66	40.00	35.77		
Total	2795.00	44.00			

$H0_4$: All private banks under study have on a same average of credit deposit ratio.

It found that from the table 4.2, the calculated value (4.11660766) is greater than Critical value (2.660814), the Null hypothesis (H0) is rejected and hence, it can be concluded that All private banks under study have a significant difference on CDR.

3.2 RETURN ON NET WORTH (RONW)

RONW is used to measure the profitability of the bank; The amount of money that the banks generate from the investment of equity shareholders.

RETURN ON NET WORTH = NET INCOME / SHAREHOLDERS EQUITY

Table 5.1 - Return on Equity / Net worth (%)

BANK	HDFC	KOTAK MAHINDRA	ICICI	AXIS	INDUSLND
2011	15.47	11.97	9.35	17.83	15.09
2012	17.26	13.59	10.7	18.59	17.74
2013	18.57	14.37	12.48	15.64	14.3
2014	19.5	12.23	13.39	16.26	16.28
2015	16.47	13.19	13.89	16.46	17.49
2016	16.91	8.72	11.19	15.46	13.2
2017	16.26	12.35	10.11	6.59	14.14
2018	16.45	10.89	6.63	0.43	15.35
2019	14.12	11.47	3.19	7.01	12.52
MEAN	16.78	12.09	10.10	12.70	15.12
SD	1.59	1.66	3.41	6.37	1.80

Table 5.1 above means that the price of selected private sector banks is at least 0.43 for Axis Bank in 2018 and a maximum of 19.50 for HDFC Bank in 2014. The minimum average ratio for ICICI Bank is 10.10 and the maximum average ratio for HDFC Bank is 16.78. The minimum ratio of ICICI banks indicates that banks have less capacity to profit from the assets of shareholders than other banks. The maximum ratio of HDFC Bank indicates that banks have greater capacity to profit from the assets of shareholders than other banks. Chart no. 5 shows that HDFC Bank is the highest net return in all banks, while ICICI Bank has the lowest return on net worth. The Axis Bank has the highest standard deviation level and the HDFC bank has the lowest S. deviation level.

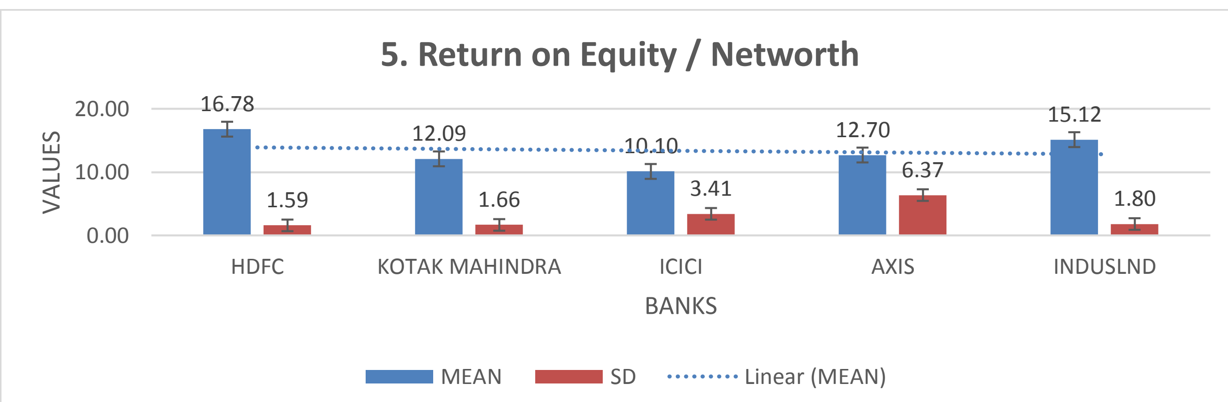

Table 5.2 - ANOVA for Return on Equity / Net worth (%)

Source of Variation	SS	df	MS	F	F crit
Between Groups	247.19	4.00	61.80	5.10	2.61
Within Groups	485.11	40.00	12.13		
Total	732.30	44.00			

$H0_5$: All private banks under study have on a same average of return on net worth
From the ANOVA table 5.2, it is inferred that since the calculated F value (5.10) more than F critical value (2.61) at the level of significance 0.05, accept the alternate hypothesis. i.e., All private banks under study have a difference average of return on net worth.

3.3 BUSINESS PER EMPLOYEE (BPE)

By this ratio banks measure the ability of management to effectively use their employee resources to generate profits. The total revenue of the bank is divided by the number of bank personnel. BUSINESS PER EMPLOYEE = REVENUE /NEMBER OF EMPLOYEES

Table 6.1 - Business/ Employee (Rs.)

BANK	HDFC	KOTAK MAHINDRA	ICICI	AXIS	INDUSLND
2011	6,61,08,672.48	5,32,63,886.64	7,75,80,440.08	12,54,57,018.95	8,63,74,169.95
2012	6,69,11,809.90	6,46,79,794.00	8,73,82,046.47	12,28,38,188.26	8,26,31,271.08
2013	7,76,03,363.18	7,37,02,036.37	9,39,11,715.27	11,86,19,441.57	8,55,82,789.95
2014	9,83,40,460.49	7,00,62,476.19	9,28,49,708.72	12,04,64,715.54	7,41,52,739.70
2015	10,70,03,994.66	7,83,45,011.89	11,29,38,140.26	14,29,13,797.44	7,47,46,385.23
2016	11,54,72,348.91	8,19,19,235.15	11,86,96,176.03	13,89,73,029.46	7,86,72,891.59
2017	14,20,94,024.12	6,67,06,361.07	11,51,93,098.71	13,90,83,338.45	9,46,72,011.69
2018	16,39,72,185.69	7,24,72,239.16	12,97,53,214.80	14,98,42,826.65	11,73,04,553.04
2019	17,76,99,813.90	10,33,63,871.51	14,28,68,072.08	16,84,32,242.98	13,74,45,981.58
MEAN	11,28,00,741.48	7,38,34,990.22	10,79,08,068.05	13,62,91,622.14	9,23,98,088.20
SD	41023074.28	13836374.37	21383122.86	16342704.53	21406186.01

Table No. 6.1 above assumes that the minimum range for selected private sector banks is 53263886.64 for Kotak Mahindra Bank during 2011 and maximum of 177699813.9 for HDFC Bank during 2019. Minimum average ratio for Kotak Mahindra Bank is 7,38,34,990.22 and maximum ratio of 13,62,91,622.14 for Axis Bank. Table 6.1 and Chart 6 - Axis Bank has a high ratio, which shows that Axis Bank has more efficiency of employees in all banks, while Kotak Mahindra Bank has the lowest performance per employee. HDFC Bank has the highest standard deviation level and Kotak Mahindra Bank has the lowest level of standard deviation.

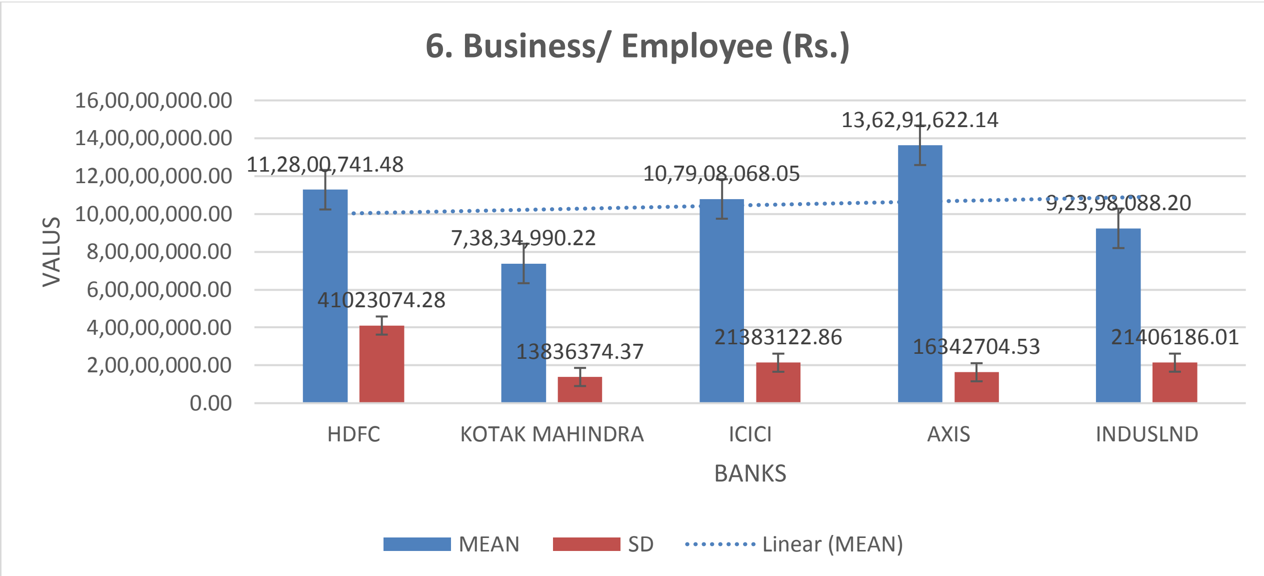

Table 6.2 - ANOVA for Business per Employee

Source of Variation	SS	df	MS	F	F crit
Between Groups	2E+16	4E+00	5E+15	8E+00	3E+00
Within Groups	2E+16	4E+01	6E+14		
Total	4E+16	4E+01			

$H0_6$: All private banks under study have on a same average of business per employees
In the table no. 6.2 shown that as the calculated value is greater than critical value at the 5 % level of significance, Null hypothesis (H0) is rejected, and it can be concluded that there is a significant difference on the BPE among the bank group.

4. EARNING

It basically determines the profitability of the bank and explains the sustainability and growth of the future.

4.1 OPERATING PROFIT MARGIN (OPM)

This shows how much cash is thrown after most of the expenses are completed. High operating profit margin means that the bank has good cost control.
OPERATING PROFIT MARGIN = OPERATING EARNINGS/ REVENUE

Table 7.1 - Operating Profit Margin (%)

BANK	HDFC	KOTAK MAHINDRA	ICICI	AXIS	INDUSLND
2011	-2.05	0.89	-5.76	-8.2	-3.79
2012	-0.28	1.74	-3.09	-5.35	-3.9
2013	-0.36	2.48	-0.05	-5.04	-4.32

BANK	HDFC	KOTAK MAHINDRA	ICICI	AXIS	INDUSLND
2014	1.35	1.17	-1.39	-3.87	-5.84
2015	2.51	-1.67	-2.03	-2.83	-6.29
2016	2.56	-3.18	-10.61	-2.8	-8.72
2017	3.25	-0.37	-17.91	-17.98	-9.04
2018	2.82	0.16	-19.36	-23.35	-6.62
2019	3.48	1.09	-17.58	-15.37	-10.53
MEAN	1.48	0.26	-8.64	-9.42	-6.56
SD	1.94	1.77	7.86	7.57	2.42

Table No.7.1 above states that selected private sector banks have a range of at least -23.25 for Axis Bank during 2018 and a maximum of 3.84 for HDFC Bank during 2019. Minimum average ratio of -9.42 for Axis Bank and maximum ratio of 1.48 for HDFC Bank. The minimum ratio of ICICI Bank indicates that there is less cost control capacity than other banks. The maximum ratio of HDFC Bank indicates that there is better cost control capacity than other banks. Chart 7 shows that HDFC Bank has the highest operating profit margin in all banks, while Axis Bank has the lowest operating profit margin. ICICI Bank has the highest standard deviation and Kotak Mahindra Bank has the lowest standard deviation.

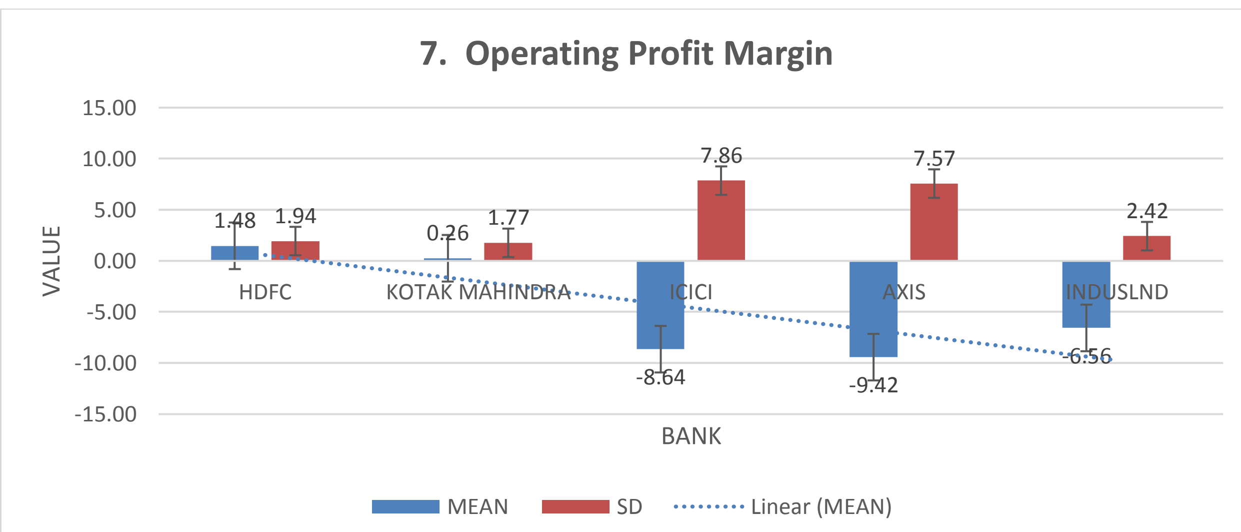

Table 7.2 - ANOVA for Operating Profit Margin

Source of Variation	SS	df	MS	F	F crit
Between Groups	935.33	4.00	233.83	8.88	2.61
Within Groups	1053.86	40.00	26.35		
Total	1989.19	44.00			

$H0_7$: All private banks under study have on a same average of operating profit margin

From the ANOVA table 7.2, it is inferred that since the calculated F value (8.88) more than F critical value (2.61) at the level of significance 0.05, accept the alternate hypothesis. i.e., All private banks under study have a difference average of operating profit margin.

4.2 NET PROFIT MARGIN

NPM shows how much of the profit remaining after all operating expenses, interest, tax is deducted from the total income of the bank.

NET PROFIT MARGIN = TOTAL REVENUE - TOTAL EXPENSES/ TOTAL REVENUE = NET PROFIT/TOTAL REVENUE

Table 8.1 - Net Profit Margin (%)

BANK	HDFC	KOTAK MAHINDRA	ICICI	AXIS	INDUSLND
2011	19.7	19.52	19.83	22.35	16.08
2012	18.93	17.55	19.27	19.28	14.97
2013	19.18	16.91	20.77	19.05	15.19
2014	20.61	17.13	22.2	20.29	17.05
2015	21.07	19.19	22.76	20.73	18.5
2016	20.41	12.75	18.44	20.06	19.74
2017	20.99	19.27	18.09	8.26	19.9
2018	21.79	20.68	12.33	0.6	20.86
2019	21.29	20.32	5.3	8.5	14.82
MEAN	20.44	18.15	17.67	15.46	17.46
SD	0.98	2.43	5.54	7.65	2.35

Table No. 8.1 above states that selected private sector banks have a ratio of at least 0.60 for Axis Bank during 2018 and a maximum ratio of 22.76 for ICICI Bank during 2015. Minimum average ratio of 15.46 for Axis Bank and maximum ratio of 20.44 for HDFC Bank. The minimum ratio of Axis Bank indicates that axis banks have less profitability than other banks. The maximum ratio of HDFC Bank indicates that the bank has a good profitability compared to other banks. Chart 8 shows that HDFC Bank has the highest net profit in all banks, while Axis Bank has the lowest net profit. Axis Bank has the highest level of standard deviation and HDFC Bank has a level below.

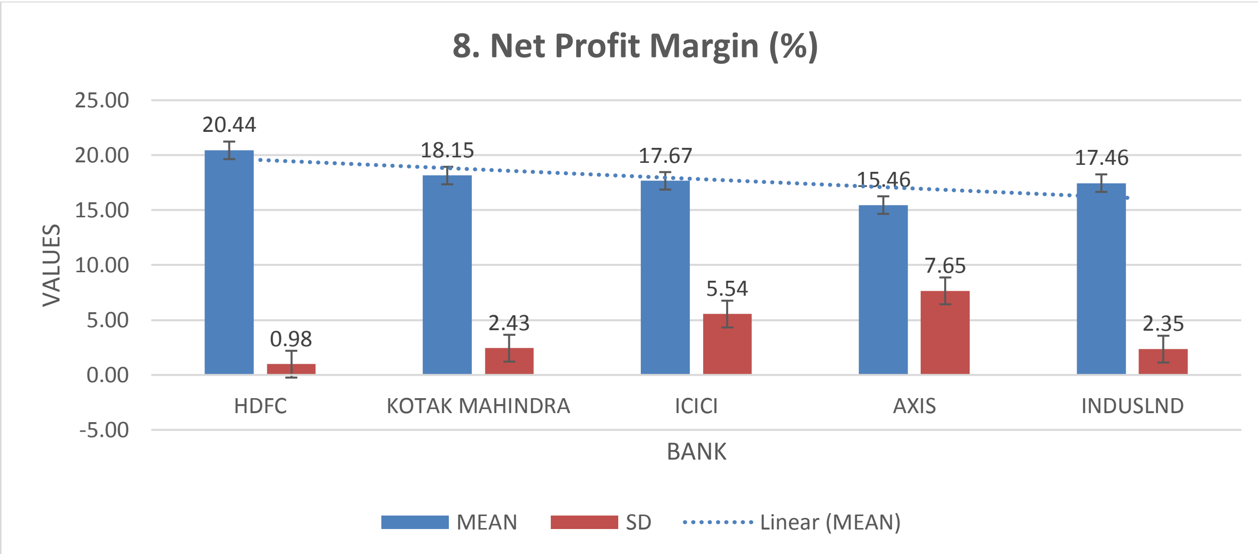

TABLE 8.2 - ANOVA for Net Profit Margin

Source of Variation	SS	df	MS	F	F crit
Between Groups	114.41	4.00	28.60	1.41	2.61
Within Groups	813.18	40.00	20.33		
Total	927.59	44.00			

$H0_8$: All private banks under study have on a same average of net profit margin

From the ANOVA table 8.2, it is shown that the calculated F value (1.41) less than F critical value (2.61) at the level of significance 0.05, accept the Null hypothesis. i.e., All private banks under study have on a same average of net profit margin.

5. LIQUIDITY

The excellent liquidity position of banks has a favorable effect on the financial performance of banks. Cash and investment in assets are the most liquid in bank assets. In this series of ratios, the bank's ability to fulfill the responsibility is assessed.

Table 9.1 - Cash Deposit Ratio

YEAR	HDFC	KOTAK MAHINDRA	ICICI	AXIS	INDUSLND
2011	10.79	7.89	11.32	7.07	7.46
2012	8.81	6.08	8.6	6.01	6.99
2013	5.46	4.72	7.21	5.39	6.38
2014	6.02	4.68	6.54	5.97	6.69
2015	6.46	5.13	6.85	6.11	6.28
2016	5.77	5.07	6.74	6.2	5.12
2017	5.71	4.86	6.45	6.89	5.59
2018	9.95	4.69	6.17	7.64	6.73

YEAR	HDFC	KOTAK MAHINDRA	ICICI	AXIS	INDUSLND
2019	8.85	4.73	5.85	7.04	6.04
MEAN	7.54	5.32	7.30	6.48	6.36
SD	2.06	1.06	1.70	0.71	0.72

5.1 CASH DEPOSIT RATIO (CDR)

It mentions how much bank funds are used for lending. Banks are divided by total deposits with total cash and RBI.

CASH DEPOSIT RATIO= LIQUID ASSET/TOTAL DEPOSIT

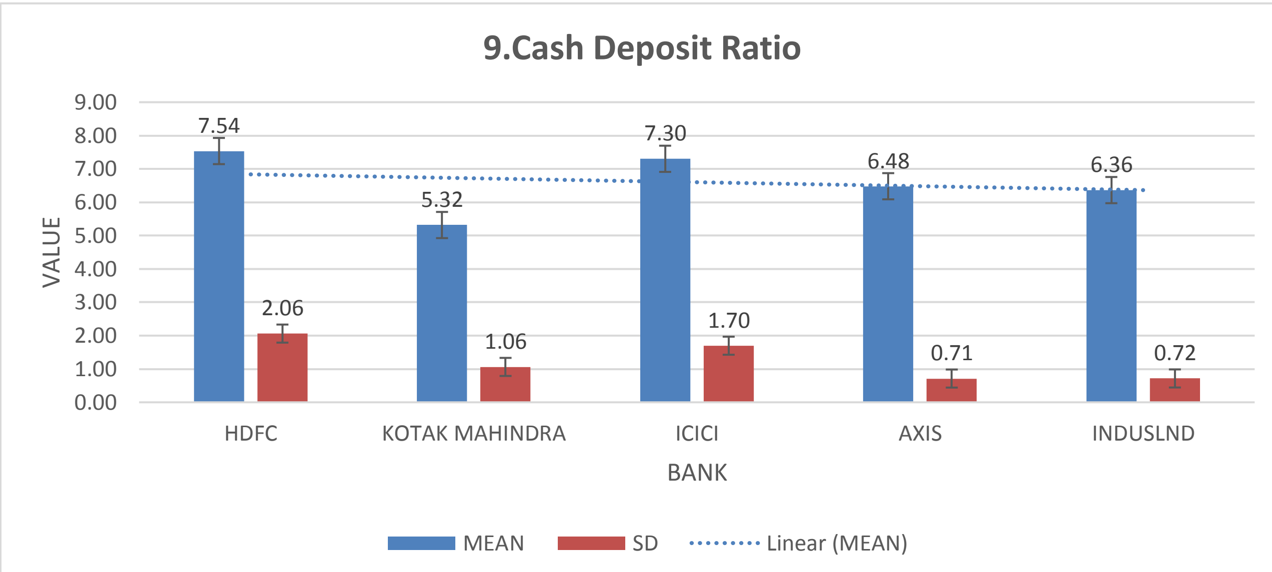

Table No. 9.1 shows that selected private sector banks have a minimum ratio of 4.68 for Kotak Mahindra Bank during 2014 and a maximum of 11.32 for ICICI Bank during 2011. Minimum average ratio for Kotak Mahindra Bank is 5.32 and maximum average ratio of 7.54 for HDFC Bank. The minimum ratio of Kotak Mahindra Bank indicates that Kotak Mahindra Bank has less funds for lending out of total deposits. The maximum ratio of HDFC Bank indicates that there are more funds used for lending from total deposits than other banks. Chart 9 shows that HDFC Bank has the highest cash deposit ratio in all banks, while Axis Bank has the lowest cash deposit ratio. HDFC Bank has the highest level of standard deviation and Kotak Mahindra Bank has the lowest level of standard deviation

Table 9.2 - ANOVA for Cash Deposit Ratio

Source of Variation	SS	df	MS	F	F crit
Between Groups	27.78	4.00	6.95	3.74	2.61
Within Groups	74.20	40.00	1.85		
Total	101.98	44.00			

$H0_9$: All private banks under study have on a same average of cash deposit ratio
Table 9.2 indicate that the calculated value (3.74) is greater than critical value (2.61), the Null hypothesis (H0) is rejected, hence it can be concluded that all private banks under study have on a difference average of cash deposit ratio.

5.2 LIQUIDITY RATIO (LR)

It refers to highly liquid assets held by financial institution in order to meet short-term obligations. It shown the capacity of bank to respect the demand from depositor during a particular year.
LIQUIDITY RATIO= LIQUID ASSETS/TOTAL ASSETS

Table 10.1 - liquid assets to total assets

BANK	HDFC	KOTAK MAHINDRA	ICICI	AXIS	INDUSLND
2011	15.96	7.82	12.42	10.73	11.66
2012	12.62	6.96	11.77	7.15	12.68
2013	11.56	7.03	13.13	8.08	11.70
2014	13.16	9.10	12.48	9.71	10.74
2015	9.39	7.76	10.42	9.96	13.12
2016	10.87	10.81	16.30	11.64	13.69
2017	10.56	14.86	17.91	15.94	15.41
2018	15.02	10.99	17.73	13.57	11.40
2019	10.49	10.78	16.81	15.88	10.96
MEAN	12.18	9.57	14.33	11.41	12.37
SD	2.21	2.57	2.85	3.16	1.51

Table No.10.1 denotes that chosen private sector banks have a minimum ratio of 6.96 for Kotak Mahindra Bank during 2012 and a maximum of 17.91 for ICICI Bank during 2017. Minimum average ratio 9.57 for Kotak Mahindra Bank and maximum mean ratio of 14.33 for ICICI Bank. The minimum ratio of Kotak Mahindra Bank indicates that Kotak Mahindra Bank shows low capacity to respect demand for money from a depositor during the specified year. The maximum ratio indicates that HDFC Bank has greater capacity to respect the demand for money from a depositor during a particular year than other banks. Chart No. 10 shows that ICICI Bank has the highest liquidity ratio in all banks, while Kotak Mahindra Bank has the lowest liquidity ratio. Axis Bank has the highest level of standard deviation and INDUSLND Bank has the lowest level of standard deviation.

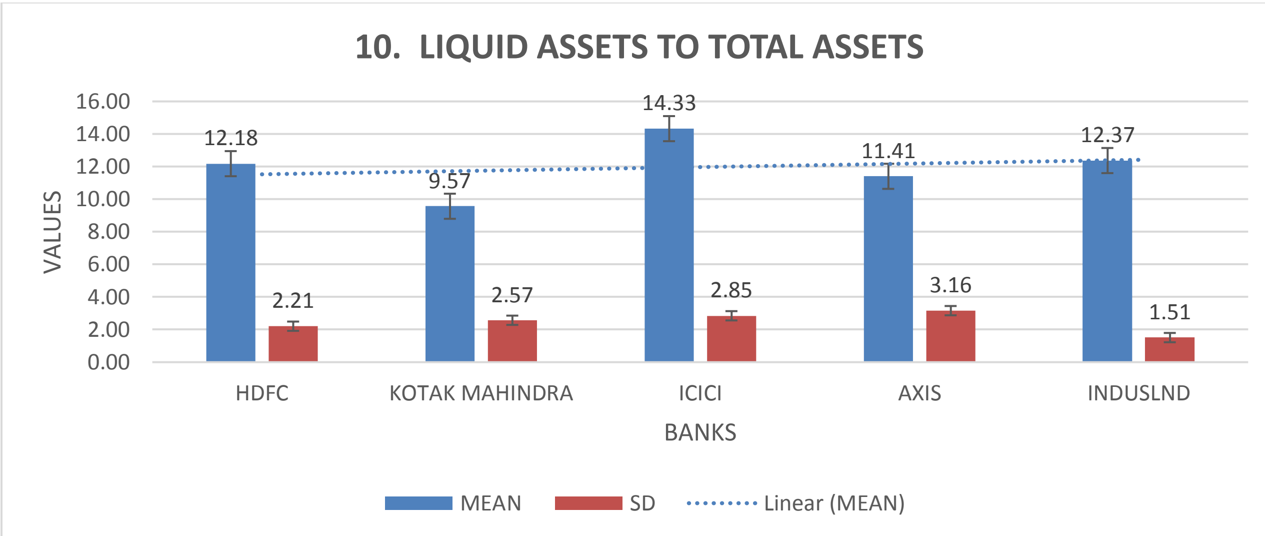

Table 10.2 - anova for liquid assets to total assets

Source of Variation	SS	df	MS	F	F crit
Between Groups	106.82	4.00	26.71	4.19	2.61
Within Groups	254.74	40.00	6.37		
Total	361.56	44.00			

$H0_{10}$: All private banks under study have on a same average of liquidity ratio
In table 10.2, the calculated values (4.19) is greater than critical value (2.61) so null hypothesis is rejected. And hence it can be concluded that there is significant difference on the average of LR among the bank groups.

Finding and suggestion

1. In positions of CAPITAL the ICICI Bank have better position and cover realistic point of losses and INDUSLND Bank low CSR ratio indicate that INDUSLND Bank is not adequately capitalized comparative to other private sector banks. So INDUSLAND Bank need to improve bank capital.
2. In standings of ASSETS HDFC Bank show so the better condition than other private bank. ICICI Bank have high ratio of NNPA it indicates that ICICI BANK need to reduce loan and borrowing activity and take step for cover interest borrowing. AXIS Bank need to step for effective and efficient use of bank assets
3. In provisions of MANAGEMENT EFFICIENCY HDFC bank have better condition on CDR and RONW, ICICI Bank need to step for improve CDR and RONW by reduce lending of deposit and effective use of shareholders fund. AXIS bank has high return on BPE and KOTAK MAHINDRA Bank need to step for effective use of business employees.

4. In basics of EARNING AXIS Bank have lowest performance and take step for reduce operating expenses with improve banking efficiency. HDFC Bank have good ability to cost control and profitability compare to other private banks.
5. In positions of LIQUIDITY KOTAK MAHINDRA Bank need to step for improve liquidity of bank and HDFC and ICICI Bank have high liquidity among all private banks.

Above all examination it concludes the HDFC Bank have higher financial performance among all private sector banks.

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Conflict of Interest

The author declared no conflict of interest.

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